

### **REMARKS**

Claims 1-16 are all the claims pending in the application. By this amendment, claims 1, 3-7 and 11-13 are amended and new dependent claims 15-16 are added. In view of the foregoing amendments and following remarks, applicant respectfully requests withdrawal of the rejections and objections, and allowance of the claims.

#### **I. Allowable subject matter**

Applicant thanks the Examiner for the indication of allowable subject matter in claims 5-9, 13 and 14. However, because applicant believes that the rejected claims are also allowable, applicant declines to rewrite the allowable claims in independent form at this time.

#### **II. Objections, Formalities**

The Examiner objects to the form of claims 1, 3-7, and 11-13. As shown in the foregoing amendments, the claims have been amended in a manner that is believed to overcome the Examiner's objections. Thus, withdrawal of the objections is respectfully requested.

Applicant also thanks the Examiner for consideration of the references submitted in the Information Disclosure Statement on September 24, 2004, and acknowledgement of the foreign priority claim.

#### **III. Claims 1-4, 10 and 11 are not anticipated**

Claims 1-4, 10 and 11 stand rejected due to alleged anticipation under 35 USC 102(b) based on Shiragaki et al. (U.S. Patent No. 6115517, hereafter "Shiragaki"), as well as under 35 USC 102(e) based on Doerr (U.S. Patent No. 6532090, hereafter "Doerr"). Applicant respectfully submits that Shiragaki fails to disclose all of the claimed combinations of features as

explained below, and thus respectfully requests withdrawal of this rejection and allowance of the claims.

The present application is directed to a cross-connect unit for optical signals, and particularly for use in optical networks. More specifically, the claimed embodiment is configured to be used for packet switching as well as circuit switching.

Applicant respectfully submits that neither Shiragaki nor Doerr discloses that it is configured to be used in packet switching as well as circuit switching, as recited in independent claim 1. For example, but not by way of limitation, Applicant respectfully submits that Shiragaki and Doerr both fail to disclose or suggest that *the space cross-connect unit is adapted to provide broadcasting of input signals independently of spectral considerations*, as recited in independent claim 1. In contrast, Shiragaki teaches a *wavelength dependent configuration* and requires the use of wavelength selectors as described at col. 11 lines 8-10 and lines 43-50 and shown in figure 5 (as cited by the Examiner). Further, Doerr teaches a *wavelength dependent arrangement* where "wavelength interchangers" (WI) are needed and wavelength selection is performed as taught at col. 6 lines 33-37. Applicant respectfully submits that both Shiragaki and Doerr teach units which have similar drawbacks as those discussed on page 2 lines 26-34 of the description in relation to the known techniques.

Applicant also respectfully disagrees with the Examiner's characterization of the "output ports of the cross-connect unit" seems with respect to Shiragaki and Doerr. In Fig. 5 of Shiragaki, the output ports are ports 571-57n ("output terminals"; col. 11 line 49), and not the output of "wavelength converters" 551-1 to 55n-m. Also in Doerr, figure 7, the output ports are

represented by the fibers having reference numeral 706 ("output fiber" col. 6 line 39), and not the group of "multi-wavelength filters" 710 and 711.

Accordingly, applicant respectfully submits that the claimed output ports are distinguishable from the prior art, because the recited relationship between number P and number C, where C is less than P, is not disclosed or even suggested in the cited prior art. In fact, applicant respectfully submits that in the cited prior art, P is equal to C, which is clearly distinguishable from *a broadcast stage comprising at most N signal dividers (A<sub>i</sub>) each having one input and C outputs where C is an integer factor of P less than P*, as recited in claim 1.

Additionally, applicant respectfully submits that these cited references may only be used in circuit switching, and not in packet switching as well. For at least this reason, applicant respectfully submits that independent claim 1 is allowable.

Dependent claims 2-4 and 10, 11 and 14 depend from independent claim 1. Applicant respectfully submits that these dependent claims are allowable for at least the same reasons as discussed above with respect to independent claim 1.

Additionally, applicant respectfully submits that corresponding structure that performs the claimed "means for connecting" recited in claim 3 is not the same as that of Shiragaki or Doerr. Further, the claimed function is not disclosed in Shiragaki or Doerr. Thus, applicant respectfully submits that under 35 USC 112, 6<sup>th</sup> paragraph, the prior art cited by the Examiner fails to disclose the scope of the "means for connecting" recited in claim 3.

Accordingly, applicant respectfully requests withdrawal of the rejections, and allowance of the claims.

#### **IV. Claim 12 would not have been obvious**

Claim 12 stands rejected due to alleged obviousness under 35 USC 103(a) based on above-cited Shiragaki. Applicant respectfully submits that claim 12 is allowable at least due to its dependency from claim 1, which is believed to be allowable for at least the reasons explained above. Thus, applicant respectfully requests withdrawal of the rejection of claim 12, and allowance thereof.

**V. New claims**

As shown in the foregoing amendment, applicant has added new claims 15-16. New claim 15 depends from claim 6. Because claim 6 is already indicated to be allowable, applicant respectfully submits that new claim 15 is also allowable for at least the same reasons as claim 6. New claim 16 depends from independent claim 1, and recites the situation where the cross-connect unit is operated in an incomplete state, and then omitted components may optionally be added by the user.

**VI. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Amendment Under 37 C.F.R. § 1.111  
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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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